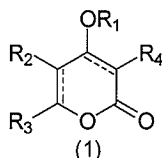


## AMENDMENTS TO THE CLAIMS

1. (Currently amended) A compound of formula (1) and salts, stereoisomeric forms, racemic mixtures, prodrugs, esters and metabolites thereof, wherein



R<sub>1</sub> is a glycosyl moiety, hydroxyl-protected acetate derivatives thereof or amino derivatives thereof;

R<sub>2</sub>, and R<sub>3</sub> and R<sub>4</sub> are, each independently, selected from the group consisting of hydrogen, C<sub>1-6</sub>alkyl, C<sub>2-20</sub>alkenyl, C<sub>6-20</sub>arylalkyl, C<sub>3-7</sub>cycloalkyl, C<sub>3-7</sub>cycloalkylC<sub>1-6</sub>alkyl, C<sub>6-20</sub>aryl aralkyl, alkylcarbonyloxy, arylcarbonyloxy, alkyloxy, alkylthio, alkylamino, alkyloxyalkyl, alkanoyl, alkylcarbonylalkyl, optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, cycloalkyl, alkyloxycarbonyl, carboxyl, aminocarbonyl, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkoxy and R<sub>4</sub> is selected from the group consisting of C<sub>1-6</sub>alkyl, C<sub>2-20</sub>alkenyl, C<sub>6-20</sub>arylalkyl, C<sub>3-7</sub>cycloalkyl, C<sub>3-7</sub>cycloalkylC<sub>1-6</sub>alkyl, C<sub>6-20</sub>aryl aralkyl, alkylcarbonyloxy, arylcarbonyloxy, alkyloxy, alkylthio, alkylamino, alkyloxyalkyl, alkanoyl, alkylcarbonylalkyl, optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, cycloalkyl, alkyloxycarbonyl, carboxyl, aminocarbonyl, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkoxy.

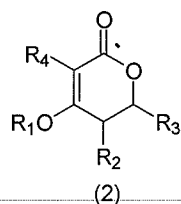
2. (Previously presented) The compound according to claim 1, wherein said glycosyl moiety is a saccharyl moiety, a hydroxy-substituted cyclohexyl moiety, hydroxyl-protected acetate derivatives thereof or amino derivatives thereof.

3. (Currently amended) The compound according to claim 1, wherein R<sub>2</sub>, and R<sub>3</sub> and R<sub>4</sub> are, each independently, selected from the group consisting of hydrogen, C<sub>1-6</sub>alkyl, C<sub>2-20</sub>alkenyl, C<sub>6-20</sub>arylalkyl, C<sub>3-7</sub>cycloalkyl, C<sub>3-7</sub>cycloalkylC<sub>1-6</sub>alkyl, C<sub>6-20</sub>aryl and R<sub>1</sub> is selected from the group consisting of glucopyranosyl, fructosyl, galactopyranosyl, mannopyranosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, threosyl, sorbosyl, psicose, tagatose, fucose, arabinose, xylofuranosyl, lyxose, talose, idose, gulose, altrose, allose, mannoheptulosyl, sedoheptulosyl, maltose, lactose, glucofuranosyl, sucrose,

cellobiosyl, trehalosyl, gentiobiosyl, melibiosyl, turanosyl, sophorosyl, isosucrosyl, raffinosl, gentianosyl, 2-amino-2-deoxy glucosyl, 2-amino-2-deoxy galactosyl, 2 amino-1,3- cyclohexanediol, and hydroxyl-protected acetate derivative thereof or amino derivatives thereof; and

R<sub>4</sub> is selected from the group consisting of C<sub>1-6</sub>alkyl, C<sub>2-20</sub>alkenyl, C<sub>6-20</sub>arylalkyl, C<sub>3-7</sub>cycloalkyl, C<sub>3-7</sub>cycloalkylC<sub>1-6</sub>alkyl, C<sub>6-20</sub>aryl and R<sub>1</sub> is selected from the group consisting of glucopyranosyl, fructosyl, galactopyranosyl, mannopyranosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, threosyl, sorbosyl, psicosyl, tagatosyl, fucosyl, arabinosyl, xylofuranosyl, lyxosyl, talosyl, idosyl, gulosyl, altrosyl, allosyl, mannoheptulosyl, sedoheptulosyl, maltosyl, lactosyl, glucofuranosyl, sucrosyl, cellobiosyl, trehalosyl, gentiobiosyl, melibiosyl, turanosyl, sophorosyl, isosucrosyl, raffinosl, gentianosyl, 2-amino-2-deoxy glucosyl, 2-amino-2-deoxy galactosyl, 2 amino-1,3- cyclohexanediol, and hydroxyl-protected acetate derivative thereof or amino derivatives thereof.

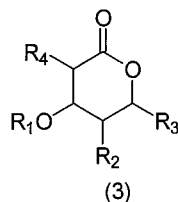
4. (Currently amended) The compound according to claim 1, comprising the formula (2),



wherein R<sub>1</sub> is a glycosyl moiety, hydroxyl-protected acetate derivatives thereof or amino derivatives thereof;

R<sub>2</sub>, and R<sub>3</sub> and R<sub>4</sub> are, each independently, selected from the group consisting of hydrogen, C<sub>1-6</sub>alkyl, C<sub>2-20</sub>alkenyl, C<sub>6-20</sub>arylalkyl, C<sub>3-7</sub>cycloalkyl, C<sub>3-7</sub>cycloalkylC<sub>1-6</sub>alkyl, C<sub>6-20</sub>aryl aralkyl, alkylcarbonyloxy, arylcarbonyloxy, alkyloxy, alkylthio, alkylamino, alkyloxyalkyl, alkanoyl, alkylcarbonylalkyl, optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, cycloalkyl, alkyloxycarbonyl, carboxyl, aminocarbonyl, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkoxy; and R<sub>4</sub> is selected from the group consisting of C<sub>1-6</sub>alkyl, C<sub>2-20</sub>alkenyl, C<sub>6-20</sub>arylalkyl, C<sub>3-7</sub>cycloalkyl, C<sub>3-7</sub>cycloalkylC<sub>1-6</sub>alkyl, C<sub>6-20</sub>aryl aralkyl, alkylcarbonyloxy, arylcarbonyloxy, alkyloxy, alkylthio, alkylamino, alkyloxyalkyl, alkanoyl, alkylcarbonylalkyl, optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, cycloalkyl, alkyloxycarbonyl, carboxyl, aminocarbonyl, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkoxy.

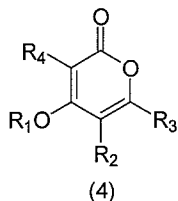
5. (Currently amended) The compound according to claim 1, comprising the formula (3),



wherein R<sub>1</sub> is a glycosyl moiety, hydroxyl-protected acetate derivatives thereof or amino derivatives thereof;

R<sub>2</sub>, and R<sub>3</sub> ~~and~~ R<sub>4</sub> are, each independently, selected from the group consisting of hydrogen, C<sub>1-6</sub>alkyl, C<sub>2-20</sub>alkenyl, C<sub>6-20</sub>arylalkyl, C<sub>3-7</sub>cycloalkyl, C<sub>3-7</sub>cycloalkylC<sub>1-6</sub>alkyl, C<sub>6-20</sub>aryl aralkyl, alkylcarbonyloxy, arylcarbonyloxy, alkyloxy, alkylthio, alkylamino, alkyloxyalkyl, alkanoyl, alkylcarbonylalkyl, optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, cycloalkyl, alkyloxycarbonyl, carboxyl, aminocarbonyl, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkoxy; and R<sub>4</sub> is selected from the group consisting of C<sub>1-6</sub>alkyl, C<sub>2-20</sub>alkenyl, C<sub>6-20</sub>arylalkyl, C<sub>3-7</sub>cycloalkyl, C<sub>3-7</sub>cycloalkylC<sub>1-6</sub>alkyl, C<sub>6-20</sub>aryl aralkyl, alkylcarbonyloxy, arylcarbonyloxy, alkyloxy, alkylthio, alkylamino, alkyloxyalkyl, alkanoyl, alkylcarbonylalkyl, optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, cycloalkyl, alkyloxycarbonyl, carboxyl, aminocarbonyl, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkoxy.

6. (Currently amended) The compound according to claim 1, comprising the formula (4),



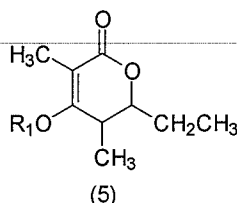
wherein R<sub>1</sub> is a glycosyl moiety, hydroxyl-protected acetate derivatives thereof or amino derivatives thereof;

R<sub>2</sub>, and R<sub>3</sub> ~~and~~ R<sub>4</sub> are, each independently, selected from the group consisting of hydrogen, C<sub>1-6</sub>alkyl, C<sub>2-20</sub>alkenyl, C<sub>6-20</sub>arylalkyl, C<sub>3-7</sub>cycloalkyl, C<sub>3-7</sub>cycloalkylC<sub>1-6</sub>alkyl, C<sub>6-20</sub>aryl aralkyl, alkylcarbonyloxy, arylcarbonyloxy, alkyloxy, alkylthio, alkylamino, alkyloxyalkyl, alkanoyl, alkylcarbonylalkyl, optionally

substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, cycloalkyl, alkyloxycarbonyl, carboxyl, aminocarbonyl, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkoxy; and  $R_4$  is selected from the group consisting of  $C_{1-6}$ alkyl,  $C_{2-20}$ alkenyl,  $C_{6-20}$ arylalkyl,  $C_{3-7}$ cycloalkyl,  $C_{3-7}$ cycloalkyl $C_{1-6}$ alkyl,  $C_{6-20}$ aryl aralkyl, alkylcarbonyloxy, arylcarbonyloxy, alkyloxy, alkylthio, alkylamino, alkyloxyalkyl, alkanoyl, alkylcarbonylalkyl, optionally substituted by one or more substituents independently selected from the group consisting of alkyl, aralkyl, aryl, cycloalkyl, alkyloxycarbonyl, carboxyl, aminocarbonyl, hydroxy, cyano, halogen or amino optionally mono- or disubstituted wherein the substituents are independently selected from the group consisting of alkyl, aryl, aralkyl, aryloxy, arylamino, aryloxyalkyl, arylaminoalkyl, aralkoxy, alkoxy.

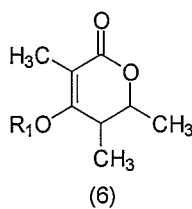
7. (Previously presented) The compound according to claim 1, wherein  $R_1$  is glucopyranosyl or galactopyranosyl,  $R_2$ ,  $R_3$  and  $R_4$  are each independently  $C_{1-6}$ alkyl.

8. (Previously presented) The compound according to claim 1, comprising the formula (5),



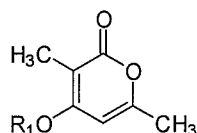
wherein  $R_1$  is selected from the group consisting of glucopyranosyl, fructosyl, galactopyranosyl, mannopyranosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, threosyl, sorbosyl, psicose, tagatose, fucosyl, arabinosyl, xylofuranosyl, lyxosyl, talosyl, idosyl, gulonic, allosyl, mannoheptulosyl, sedoheptulosyl, maltosyl, lactosyl, glucofuranosyl, sucrosyl, cellobiosyl, trehalosyl, gentiobiosyl, melibiosyl, turanosyl, sophorose, isosucrose, raffinose, gentianose, 2-amino-2-deoxy glucosyl, 2-amino-2 deoxy galactosyl, 2-amino-1,3- cyclohexanediol, and hydroxyl-protected acetate derivatives thereof or amino derivatives thereof.

9. (Previously presented) The compound according to claim 1, comprising the formula (6)



wherein  $R_1$  is selected from the group consisting of glucopyranosyl, fructosyl, galactopyranosyl, mannopyranosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, threosyl, sorbosyl, psicose, tagatosyl, fucosyl, arabinosyl, xylofuranosyl, lyxosyl, talosyl, idosyl, gulose, allose, mannose, sedoheptulosyl, maltosyl, lactosyl, glucosyl, sucrose, cellobiosyl, trehalosyl, gentiobiosyl, melibiosyl, turanosyl, sophorose, isosucrose, raffinose, gentianose, 2-amino-2-deoxy glucosyl, 2-amino-2-deoxy galactosyl, 2-amino-1,3- cyclohexanediol, and hydroxyl-protected acetate derivatives thereof or amino derivatives thereof.

10. (Previously presented) The compound according to claim 1, comprising the formula (7)

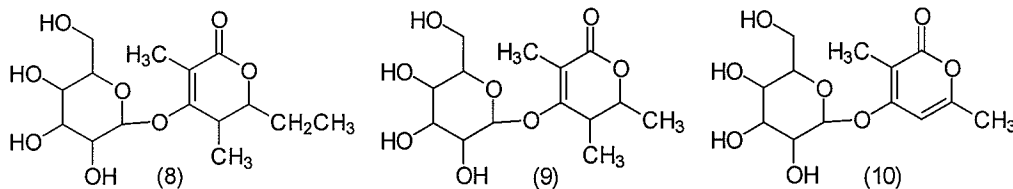


(7)

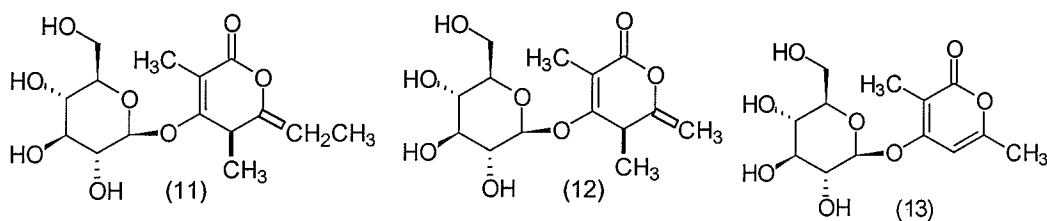
wherein  $R_1$  is selected from the group consisting of glucopyranosyl, fructosyl, galactopyranosyl, mannopyranosyl, ribosyl, ribulosyl, xylulosyl, erythrosyl, threosyl, sorbosyl, psicose, tagatosyl, fucosyl, arabinosyl, xylofuranosyl, lyxosyl, talosyl, idosyl, gulose, allose, mannose, sedoheptulosyl, maltosyl, lactosyl, glucosyl, sucrose, cellobiosyl, trehalosyl, gentiobiosyl, melibiosyl, turanosyl, sophorose, isosucrose, raffinose, gentianose, 2-amino-2-deoxy glucosyl, 2-amino-2-deoxy galactosyl, 2-amino-1,3- cyclohexanediol, and hydroxyl-protected acetate derivatives thereof or amino derivatives thereof.

11. (Previously presented) The compound according to any one of claims 8 to 10, wherein  $R_1$  is  $\beta$ -D-glucopyranosyl.

12. (Previously presented) The compound according to claim 1 comprising the formula (8), (9), or (10) or stereoisomers thereof.



13. (Previously presented) The compound according to claim 12 comprising the formula (11), (12) or (13).



14. (Withdrawn) A method of disease treatment which comprises administering a composition comprising the compound according to claim 1 to a patient in need thereof.

15. (Withdrawn) A method of plant treatment which comprises administering a composition comprising the compound according to claim 1 to a plant to be treated.

16. (Withdrawn) A method of preparing a biostatic agent which comprises blending the compound according to claim 1 with a pharmaceutically acceptable carrier.

17. (Withdrawn) A method of protecting a surface with a biocide comprising applying a coating composition comprising the compound according to claim 1 as a biocide to the surface to be protected.

18. (Withdrawn) A method of treating an infection which comprises administering a composition comprising the compound according to claim 1 as an antibiotic to an individual in need thereof.

19. (Withdrawn) A method of preparing an antifouling agent which comprises blending the compound according to claim 1 with a coating composition.

20. (Withdrawn) A method of treating an immune disease which comprises administering a composition comprising the compound according to claim 1 as an immunosuppressive agent to an individual in need thereof.

21. (Withdrawn) A method of treating a fungal disease which comprises administering a composition comprising the compound according to claim 1 as an antifungal to an individual in need thereof.

22. (Withdrawn) A method of treating cholesterol induced disease which comprises administering a composition comprising the compound according to claim 1 as a cholesterol lowering agent to an individual in need thereof.

**Application No.:** 10/580,930  
**Filing Date:** May 30, 2006

23. (Withdrawn) A method of treating cancer which comprises administering a composition comprising the compound according to claim 1 as an anticancer drug to an individual in need thereof.

24. (Previously presented) A pharmaceutical composition comprising at least one compound according to claim 1 and a pharmaceutically acceptable carrier.

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Cancelled)

29. (Withdrawn) A method of synthesizing a polyketide comprising treating a polyketide synthase with a compound according to claim 1 whereby polyketides are synthesized.

30. (Withdrawn) A method of preparing the compound according to claim 1 which comprises isolation of the compound from *Tipulidae spp.*

---